CONGRESSIONAL BUDGET OFFICE
U.S. Congress
Washington, DC 20515

Phillip L. Swagel, Director

March 10, 2022

Honorable Jason Smith
Ranking Member
Committee on the Budget
U.S. House of Representatives
Washington, DC 20515

Re: Federal Debt Under Alternative Paths for Interest Rates

Dear Congressman:

This letter responds to your request for the Congressional Budget Office's estimate of the effects of higher interest rates on federal debt over the long term.

CBO's most recent 30-year projections, which are called its extended baseline projections, were published in March 2021.[1] As part of that analysis, CBO projected economic and budgetary outcomes under scenarios in which federal borrowing rates were either higher or lower than the rates underlying the agency's extended baseline.

- In the first scenario, federal borrowing rates are boosted above the baseline rate by a differential that starts at 5 basis points in 2021 and increases by 5 basis points each year (before macroeconomic effects, which are described below, are accounted for).[2] In that scenario, federal debt held by the public equals 260 percent of gross domestic

[1] See Congressional Budget Office, *The 2021 Long-Term Budget Outlook* (March 2021), www.cbo.gov/publication/56977.

[2] That is, the borrowing rate is boosted above the baseline rate by 5 basis points in 2021, 10 basis points in 2022, 15 basis points in 2023, and so on. A basis point is one one-hundredth of a percentage point.

product (GDP) in 2051, rather than the 202 percent of GDP in the extended baseline projections (see Figure 1).[3]

- In the second scenario, federal borrowing rates are pushed below the baseline rate by those same amounts each year, and federal debt held by the public equals 160 percent of GDP in 2051.

In the first scenario, CBO's analysis starts with the boost to borrowing rates, which increases the government's interest costs. Deficits therefore grow. Those larger deficits decrease private investment, reducing the amount of capital per worker. The reduction in the amount of capital per worker means that the value of any additional capital is now higher than it would otherwise have been. Put differently, the return on capital grows, further pushing up interest rates. Those interest rates include the federal borrowing rate, which thus rises more than the initial boost.

The average federal borrowing rate reaches 6.6 percent in 2051 in the higher interest rate scenario, rather than the 4.6 percent rate for that year in the extended baseline. The rate of 6.6 percent reflects both the scenario's initial boost of the borrowing rate and the resulting effects of larger deficits, less investment, and less capital. About a quarter of that 2.0 percentage-point difference results from those macroeconomic effects rather than representing the boost to borrowing rates that the analysis began with.

In the second scenario, smaller interest payments result in smaller deficits. Those smaller deficits increase private investment, making the amount of capital per worker grow and the return on capital fall. The federal borrowing rate falls to 2.7 percent in 2051.

The budgetary effects of higher or lower interest rates are highly uncertain because those effects depend on the amount of debt that the interest rates are applied to and the macroeconomic effects of the higher rates. Also, this analysis does not explicitly account for the budgetary effects that might stem from the *sources* of the changes in interest rates. Moreover, interest

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[3] Because the extended baseline projections were published last year, they do not include the effects on the budget from changes in laws (such as the enactment of the American Rescue Plan Act of 2021) or changes in economic data and forecasts (such as higher inflation) during the past year. Those legislative and economic changes could increase or decrease debt as a percentage of GDP, on net, depending in part on how interest rates and other factors change. CBO's update of its long-term budget projections this summer will reflect such changes. If CBO then analyzed scenarios similar to the ones described here but based on the updated projections, the estimated changes to federal debt could be larger or smaller than those described here.

rates themselves could differ from the values specified in the scenarios examined here.

I hope this information is helpful to you. Please contact me directly if you have any questions.

Sincerely,

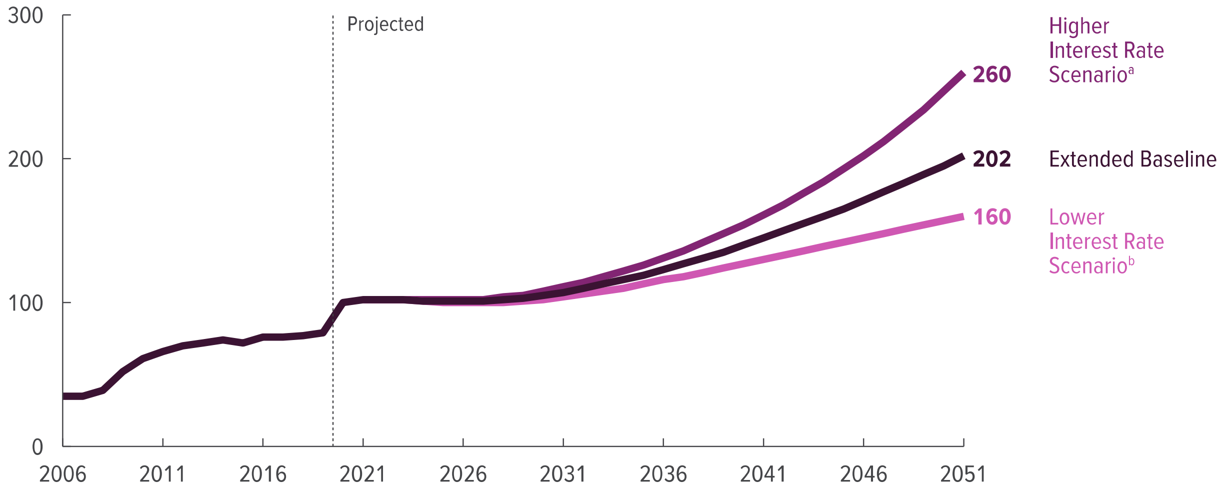
Phillip L. Swagel
Director

cc: Honorable John Yarmuth
Chairman

Figure 1.

Federal Debt If Interest Rates Differed From the Values Underlying CBO's March 2021 Extended Baseline Projections

Percentage of Gross Domestic Product



Data source: Congressional Budget Office. See www.cbo.gov/publication/56977#data.

The extended baseline projections, which generally reflect current law, follow CBO's 10-year baseline budget projections and then extend most of the concepts underlying those projections for the rest of the long-term projection period. See Congressional Budget Office, *The 2021 Long-Term Budget Outlook* (March 2021), www.cbo.gov/publication/56977.

a. In this scenario, the effective interest rate on federal debt is higher than the rate underlying CBO's extended baseline by a differential that starts at 5 basis points in 2021 and increases by 5 basis points each year (before macroeconomic effects are accounted for)—that is, the interest rate is 5 basis points higher than the baseline rate in 2021, 10 basis points higher than the baseline rate in 2022, 15 basis points higher than the baseline rate in 2023, and so on. (A basis point is one one-hundredth of a percentage point.)

b. In this scenario, the effective interest rate on federal debt is lower than the rate underlying CBO's extended baseline by a differential that starts at 5 basis points in 2021 and increases by 5 basis points each year (before macroeconomic effects are accounted for)—that is, the interest rate is 5 basis points lower than the baseline rate in 2021, 10 basis points lower than the baseline rate in 2022, 15 basis points lower than the baseline rate in 2023, and so on.